Enhancing Education Through Technology (EETT)
Competitive Sub-grant Application Assurance Sheet

Project Title: Multiplying Technology for Math Success Amount of Request: $ 73,565.00
District Name (Fiscal Agent for Consortiums): Ind. School District No. 1 Number: 340
Please list the school name, and indicate whether it is a targeted school or a partner school and certify the CIPA compliance for all participating schools within the project:

Dist. # or 'P' for Private School	School Name	This school is a targeted school 'T' or a partner school 'P'.	This school is in compliance with the CIPA as outlined on page 3 of the guidance document.
340	Jenifer Junior High School	(T) P	(YES) NO
340	Orchards Elementary School	(T) P	(YES) NO
340	Whitman Elementary School	(T) P	(YES) NO
		T P	YES NO
		T P	YES NO
		T P	YES NO
		T P	YES NO
		T P	YES NO
		T P	YES NO
		T P	YES NO
		T P	YES NO

By signing below, I certify that we have contacted the charter and private schools in our area about participation in this grant and that we have an approved technology plan on file with the Idaho State Department of Education.

Superintendent Name (print)	E-mail	Telephone
Joy C. Rapp	joy@lewiston.k12.id.us	(208) 748-3043
Signature Joy C Rapp		
District Technology Coordinator Name (print)	E-mail	Telephone
Ryan Taylor	ryan@lewiston.k12.id.us	(208) 748-3033
Signature		
Project Director Name – *if different than District Technology Coordinator* (print)	E-mail	Telephone
Joy C. Rapp	joy@lewiston.k12.id.us	(208) 748-3043
Signature Joy C Rapp		

2008-2009 Grant Application
Title II (D) Competitive Sub Grant

Multiplying Technology for Math Success

Independent School District No. 1
Lewiston, Idaho

Strive...
Achieve...
Succeed...
Go Beyond!

Prepared by:
Principal Kristina Brinkerhoff, Orchards Elementary School
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Dr. Joy Rapp, Superintendent

November 21, 2008

Abstract

National as well as local research shows that students who complete Algebra I in grade 8 show proficiency on state tests at a level of 99% and are more successful in science and math courses in high school. This, coupled with Adequate Yearly Progress and new state requirements for math credits in high school, have added additional need to prepare students not just for the ISAT proficiency but also for success in high school and beyond. Our improvement efforts are targeted to support student learning that will prepare students for pre-algebra in grade 7 and algebra in grade 8.

Our data shows that economically disadvantaged students are less likely than the total population to show proficiency on the math ISAT by about 10% and that these same students are not enrolled in grade 8 algebra courses and as such lag behind in proficiency and math opportunities. In addition, Jenifer Junior High School is in year 4 of needs improvement status due to math proficiency targets not being met. With this analysis of student achievement data, current interventions, and a recent curricular review in math, the Lewiston School District seeks this sub-grant to add technology hardware and software to fill in missing pieces of the total math instructional program. The software and hardware components align with Idaho state standards and NCTM national standards for math instruction and the State Department of Education Mathematics Initiative. In addition, each component has a research base.

The grant will support a three-prong improvement effort in math instruction.

1. Instructional tools: We will equip the targeted classrooms with projectors, wireless slates and interactive whiteboards to support the use of technology embedded in the District-adopted curriculum materials.
2. Tutorial Software: We will expand the use of Apangea and PLATO software by installing a mini-lab of computers in each of the targeted classrooms. Additionally, the tutorial software purchased with the adoption of CMP2 curriculum will support skill development. Apangea and PLATO software will support problem solving development.
3. Professional development: The plan will support teachers with time to learn how best to integrate technology into the math classroom, use of Apangea, PLATO and CMP2 software, and engagement of students in the learning process.

We will target two grade 6 classrooms, one each at the two schools with the highest percent of socio-economically disadvantaged students, and two grade 7/8 math classrooms at Jenifer Junior High School. Each teacher will collect formative assessment data based on District-adopted curriculum as well as summative state test data.

Data collected will help inform the District in making future decisions regarding technology implementation and funding. This will result in targeted use of funds, professional development and support for student learning.

Educational Need

Demographics:

The demographic make-up of Independent School District No. 1 is about 91% Caucasian and about 4% Native American. Asian, African American, and Hispanic students combine to make up less than 5% of the student population. Four of the eleven schools are identified as Title I schools. This project will benefit three (3) schools with more than fifty percent of the students qualifying for free or reduced lunch. The junior high school students that will benefit from this project attend the secondary school with the highest percentage of free or reduced lunch counts.

FREE AND REDUCED LUNCH				
School	***04-05***	***05-06***	***06-07***	***07-08***
Orchards	55.9%	56.1%	58.5%	60.87
Whitman	49.1%	54.0%	53.9%	50.58
Jenifer	35.2%	36.8%	36.2%	34.67
DISTRICT	***31.9%***	***33.4%***	***33.7%***	***34.37***

Assessment Data:

The proposal supports the District Strategic Plan goals of continuously improving student achievement and increasing quality programs. Independent School District No. 1 has established academic goals that include 90% of students scoring proficient or advanced at their grade level by spring 2008 in mathematics, reading and writing. This percentage will be accelerated to align with the 100% proficient requirement in No Child Left Behind. The Strategic Plan lists summative assessments for mathematics that include the Idaho Standards Achievement Test and the Direct Math Assessment. The District also administers a mathematics skills test each year.

A review of data for the schools served by this project shows that all four (4) schools fall below the District average for percent of students scoring advanced or proficient on the spring 2007 Idaho Standards Achievement Test for the overall population. Additionally, even larger discrepancies exist when examining the percent advanced or proficient for both students with disabilities (SWD) and students receiving free or reduced price lunches.

MATHEMATICS – ISAT – GRADE 6 Differences in Proficiency – Spring 2005 through Spring 2008						
SCHOOL	**OVERALL**		**SES**		**SWD**	
	2005	**2008**	**2005**	**2008**	**2005**	**2008**
Orchards	48%	78%	39%	63%	17%	38%
Whitman	57%	83%	46%	81%	11%	25%
Jenifer	77%	84%	64%	74%	25%	32%
District	***79%***	***84%***	***69%***	***79%***	***38%***	***58%***
State	**78%**	**80%**	**68%**	**72%**	**43%**	**44%**

*Individual grade level scores include N between 23-50.

The Idaho Direct Mathematics Assessment (DMA) scores provide another source of assessment data. All three schools fall below the District average (see chart on following page).

DIRECT MATHEMATICS ASSESSMENT – GRADE 6				
School	***04-05***	***05-06***	***06-07***	***07-08***
Orchards	1.80	2.4	2.2 (47%)	2.8 (55%)
Whitman	2.22	2.8	2.4 (51%)	2.8 (68%)
Jenifer (Gr 8)	2.63	3.0	2.7 (54%)	2.8 (68%)
DISTRICT	***2.47***	***2.6***	***2.5 (51%)***	***2.9 (71%)***
State	**2.2**	**2.5**	**2.3**	**2.8 (65%)**

*Individual grade level scores include N between 23-50.

Additionally, a *Student Math Interview* was conducted in May 2005. Key findings that support this project include the following statements from students:

a. Bring in hands-on things and make it interesting – not just from the book all the time;
b. Let students learn together;
c. Get one-on-one help when you need it; (d) Get teachers who know lots of ways to teach for different learning styles.

The project will support the attainment of the goals outlined in the Strategic Plan and under the provisions of *No Child Left Behind* with the ultimate goal that all students will have a key understanding of mathematics and be able to successfully apply the knowledge gained because of this project in grades 8-12, post-secondary and work force settings. This project also aligns closely with the State Department of Education Mathematics Initiative.

Adequate Yearly Progress:

Jenifer Junior High School is in Year 4 of Needs Improvement. However, during the 2007-2008 school year, Jenifer Junior High School met all AYP goals and are in a holding pattern. This grant becomes a critical component of maintaining AYP especially as the goals increase from 70% to 80% in mathematics in 2009-2010.

Summary:

This project aligns with the areas of weakness in our data:

a. The projection system and provisions for using CMP2 electronic components in initial instruction support researched teaching strategies for economically disadvantaged students and students with disabilities;
b. A mini-lab with Apangea and PLATO software provides interventions that are timely, directive and systematic;
c. Professional learning is embedded in this project that is researched based, ongoing, and reflective.

Local Project Details

Jenifer Junior High School's needs improvement status has raised significant concern. The improvement efforts have shown academic growth for students at the school and resulted in Jenifer Junior High School meeting all 41 AYP requirements. It is critical that additional supports are added in order for the school to meet the AYP target for 2010 of 80% proficient or advanced in mathematics.

We recognize the need to intervene for students prior to them reaching grade 9, thus ensuring that students enter high school with the knowledge, skills and dispositions to provide them success. The goal for this project is to move all students forward in their proficiency status. The project will meet the needs of students in tiers 2 and 3 of instruction through more engaging math lessons for initial learning of concepts and tutorial support for students that do not understand the concepts or skills.

Goal 1: Narrow the achievement gap between SES and total population in math by 5% as measured on the ISAT by spring 2010.

1. Increase engagement in math learning through projection, wireless slates and interactive whiteboards.
    a. Provide initial training for teachers on use of projections and interactive white boards.
    b. Install projectors and interactive white boards into two grade 6 and two grade 7/8 math classrooms.
    c. Provide teachers with laptops to use in connection with the whiteboard system.

2. Provide professional development for teachers in use of technology enabling the train-the-trainer model to fully prepare staff to train peers.
    a. Provide training for teachers in use of CMP2 technology.
    b. Map use of technology with each of the CMP2 units and outline lessons with what will be learned, why it is important, and how the learning will take place for students.
    c. Align Apangea and PLATO with learning targets of CMP2 units for use in intervention and enrichment.
    d. Creation of electronic database to support student involvement in the assessment process.

3. Implement technology, curriculum maps and student learning database into instruction.
    a. Apply projection systems, wireless slates and interactive whiteboards in math instruction.
    b. Apply CMP2 technology in instruction.
    c. Use Apangea and PLATO for tutorial and interventions.
    d. Implement electronic database of student learning as a means of formative and self-assessment.

Goal 2: Increase the total number of students successfully completing algebra in grade 8 and increase the percent of economically disadvantaged students successfully completing algebra in grade 8 as measured by increased student enrollment and completion with a 70% grade average.

Goal 3: Engaged learners and math success as assessed by pre- and post-student surveys.

a. Teachers will utilize the maps, lesson targets, interventions and projection/interactive whiteboards.
b. Use student learning for formative and self-assessment in mathematics.

Teachers will be equipped and prepared to use the new technology in their classrooms in an effective manner to support students in the initial learning of concepts and skills. Once initial interaction with the content has taken place, intervention that is timely, directive and systematic will ensure the continued progress of students. This will take place with the mini-labs capable of running Apangea and PLATO in the classroom. This intervention will support students at risk of falling behind as well as support enrichment of students who need to move ahead.

The student learning database will be used to track progress with learning, allowing students to provide evidence of learning and reflection on how they learned the information and what they will do to improve. This is based on goal setting research and student engagement in learning research. This tool will provide formative data for the teachers and students and will be made accessible via the mini-labs in classrooms.

Teachers will be asked to meet periodically throughout the year of implementation and share video tapes of classrooms. As a team they will work to support each other to ensure that students are learning and that they are implementing the instructional strategies.

Timeline

The District will purchase and install the projection systems, interactive whiteboards, and wireless slates by the first of April 2009. Following the installation, training regarding the use of the equipment will be provided. At the end of April, a representative from CMP2 will train teachers in how to use the technology embedded in the materials. During the remainder of the school year, teachers will use the equipment in math instruction and integrate CMP2 technology.

During the summer of 2009, teachers will be provided a week of paid time to receive training in tutorial software, map the math curriculum combining initial instruction using the CMP2 materials and tutorials as interventions and enrichment, and plan the structure of the student learning database. In addition, teachers will work together to plan out instruction and use of the projection technology. Mini-labs will also be installed over the summer.

The 2009-2010 school year will be the first full year of implementation of the project. As teachers implement their plans and curriculum map they will collect data regarding student engagement, achievement on District and state math assessments, and through the use of the student learning database. As teachers collaborate throughout the school year, they will work together to refine the curriculum map, student learning database, and use of all the technology components.

Sustainability

The Lewiston School District has a history of continuation of projects initiated by grants. Examples of this include the Albertson's grants that allowed for the start of SmartLabs in the District. These labs have been upgraded multiple times since the original grant. In addition, as seen in the mission statement, the Lewiston School District is committed to "going beyond" status quo.

Products from the project will be transferable to other classrooms and teachers. Examples include the curriculum maps and lesson guides created, the student learning database, and Apangea and PLATO alignment for intervention and enrichment. As data is evaluated, the District will assess how best to provide similar formats of equipping classrooms and/or how to reorganize math instruction to better utilize the equipment in place. This may include having one teacher at grade 6 at each elementary school teaching math, thus providing access to the equipment for all grade 6 students in the school. The grant will allow for the purchase of mobile interactive whiteboards, again, allowing for more student contact with the equipment.

In short, if the assessment data from this project is encouraging and students are achieving at higher levels, more engaged in math learning, and more successful in algebra at grade 8, the District will strive to not only sustain the project but expand it to other classrooms and levels. The District is committed to improving instruction and instructional tools with the goal of improving student learning.

Budget Narrative

Projectors, Wireless Slates, and Interactive Whiteboards:

Item	Cost Per Item	Number	Total Cost
Projector (SB600i) Interactive Whiteboard	$4,199	4	$16,796
Mobile Stand	$749	4	$2,996
Wireless Slate (Airliner)	$399	4	$1,596
Shipping & Installation	$250	4	$1,000
Teacher Laptop	$1,500	4	$6,000
TOTAL			**$28,388**

Mini-labs and Installation:

Item	Cost Per Item	Number	Total Cost
Computer (4 per each of 4 rooms)	$968	16	$15,488
Screen	$249	16	$3,984
Surge Protectors	$25	8	$200
Wiring, Switches for Internet Access	$1,500	4	$6,000
TOTAL			**$25,672**

Budget Summary:

Category	Total
Projectors, Wireless Slates and Interactive Whiteboards	$28,388
Professional Development and Implementation	$19,505 ✓
Mini-labs and Installation	~~$25,672~~
GRAND TOTAL	**$73,565**

Professional Development Costs:

Teachers will attend training after school or on Saturday and will be paid at the negotiated rate for the time to learn how to implement the above stated hardware. For the four teachers plus one Teacher on Special Assignment, this cost is budgeted at $2,125.00 for 8 hours.

CMP2 and Apangea and PLATO Implementation:

Teachers will attend training after school or on Saturday and will be paid at the negotiated rate for their time to participate in CMP2 and Apangea and PLATO training. For the four teachers plus one Teacher on Special Assignment, this cost is budgeted at $5,000.00 for 16 hours.

Summer Planning:

Teachers will be paid for one week of collaboration to create curriculum maps, student learning database, connections between CMP2, Apangea, PLATO and lesson plans. For the four teachers plus one Teacher on Special Assignment, this cost is budgeted at $8,500.00 for 32 hours.

Expense to Attend One-Day Evaluation Inservice in Boise:

Two team members will travel to Boise requiring the following expenditures: Airfare $400.00, Meals $50.00, and hotel $80.00 for a total of $680.00.

Collaboration:

Teachers will collaborate monthly over a twelve (12) month implementation period in order to share teaching strategies and student achievement data. For the four teachers and one Teacher on Special Assignment, this cost is budgeted at $3,200.00 for twelve (12) hours.